

BARON-MAX®

Toolroom Bed Mills

The BM-T series offer you the flexibility to use in manual, semi-CNC or full-CNC modes. The conversational control makes programming easy so even one-off parts can be done quickly and efficiently.



BM-350T 3 Axis (column)

- Manual quill with optional linear scale
- Easy to use, quick set up for one Off-Parts
- 5 HP Programmable 4,500 RPM with Hi / Lo gears.
- Travels: 810 x 460 x 500 mm
- Rugged 10" x 54" Table
- Saddle length: 600 mm

BM-400T 3 Axis (column)

- Manual quill with optional linear scale
- Easy to use, quick set up for one Off-Parts
- 5 HP Programmable 4,500 RPM with Hi / Lo gears
- Travels: 1000 mm x 500 mm x 560 mm
- Table size: 305 mm x 1524 mm
- Saddle length: 1260 mm

100% laser calibrated & ballbar testing for positioning accuracy & repeatability

The Baron-Max CNC rigid bed mills designed for fast and efficient production of short-run and one-off parts. User friendly, conversational software and unique manual automatic operation making these machines ideal for Repair, Tool & Die, Maintenance & Job Shop

Machine Standard Features

- Simple programming - Interactive ICON based conversational programming system
- Manual quill feed with optional linear scale
- 5 HP S/motor, NST#40 spindle taper
- Programmable 70- 4,500 rpm S/speed w Hi / Lo gears
- Turcite-B Coated guideways for extended working life
- Heavy "Meehanite" cast iron construction for e long term reliability
- **BM-350T:** 10" x 54" Table size,
BM-400T: 12" x 60" Table size.
- X-Y-Z Travel: **BM-350T:** 850 x 460 x 500 mm
BM-400T: 1000 x 500 x 560 mm
- Box ways design on Y & Z axis to provide maximum rigidity & stability
- Saddles support width is 600 mm for **BM-350 T**
Saddles support width is 1260 mm for **BM-400 T**
- Dual nuts ball screws hardened & ground for high accuracy
- Counter-weight on Z, Offset the balance to ensure stable cutting
- Coolant system with air nose
- Built-in Quartz work light
- Central auto lubrication system
- Base chip tray and rear splash guard

BARON-MAX®

Toolroom CNC Bed Mills with Rigid Head

Manual Operation with DRO, Semi-Automatic Operation or Full 3 Axes CNC Operation



BM-350H / BM-400H

Toolroom Bed Mill with Rigid Spindle Head

- Fagor 8058elite M CNC control
 - Conversational, G-code or CAM system
 - FAGOR AC Servos and drives
 - Manual, Semi-CNC or Full-CNC Modes
 - Extremely Easy to Use
 - Fast Set Up for One Off-Parts
 - Perfect for Repair, Tool & Die, and Job Shop
- BT40/CT40 or DIN 40 Taper spindle with 8000 rpm
- 7.5 HP FAGOR AC Spindle motor & drives.
- FAGOR AC servo motors and drivers XYZ axis
- Absolute encoders - no homing required
- Coolant system and built-in Quartz work light
- Automatic lubrication system
- **BM-350H:** 10" x 54" Table size,
BM-400H: 12" x 60" Table size.
- Saddle size : 600 mm (**BM-350H**)
: 1250 mm (**BM-400H**)
- X-Y-Z Travel: **BM-350H:** 810 x 410 x 500 mm
BM-400H: 1000 x 450 x 560 mm



Shown in the picture without the telescoping cross slide way covers that normally cover the cross slide screw shaft extension.

100% laser & ballbar calibration for positioning accuracy & repeatability

Rigid Spindle & Optional Tool Changer



Superior rigid spindle and power AC Servo motor deliver high speed and accuracy on both BM-350H & BM-400H with 8000 rpm.



Optional 12T or 16T carousel type automatic tool changer available

BARON-MAX[®]

Toolroom Bed Mill with Manual Quill Head

The BM - T Series is the ultimate mill for your toolroom applications. Built to be the most accurate and reliable machine of its type, it is also extremely easy to use. Equipped with a manual quill and manual handwheels, the BM-T Series gives you the flexibility to use in Manual, Semi-CNC or Full-CNC modes. The conversational control makes programming easy so even one off parts can be done quickly and efficiently. Reliability, precision and ease of use make the BM the Ultimate mill.



- 7.5 HP Hi torque Inverter variable speed drive with Hi-low speed ranges from 0-4200 RPM
- Meehanite casting main frame with annealed & stress relieved for long term reliability
- The spindle speed is programmable through the CNC control with over-ride capability
- CP4 ABEC7 angular contact spindle bearings
- C3 double nut X/Y/Z axes Ø40 mm diameter ballscrews.
- Hardened/ground Box way construction with Turcite B coating on X/Y/Z guide ways
- Telescopic steel way cover on X/Y/Z Axes
- Coolant system and Central lubrication system with alarm
- Heavy-duty chip tray, rear splash guard and table guarding
- Long arm halogen work light 10V/70W
- Portable hand wheel

Extra Heavy Duty, Large Capacity, CNC Bed Mills with Real Cutting Power



BM-600T Features

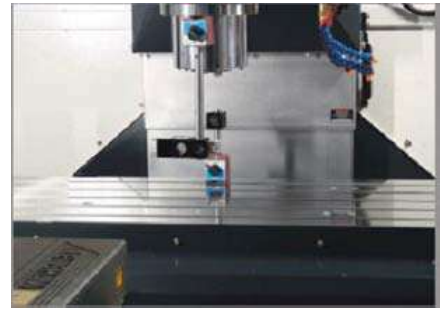
- 7.5 HP Hi torque Inverter variable speed drive with Hi-low speed ranges from 0-4500 RPM
- Hardened and chromed quill with 150 mm travel
- CP4 ABEC7 angular contact spindle bearings
- C3 double nut X/Y/Z axes, Ø40 mm diameter ballscrew
- Hardened and ground table surface
- Ground T-slots to provide accurate reference edge
- Hardened/ground Box way construction with Turcite B coating on X/Y/Z guide ways
- Meehanite casting main frame with annealed & stress relieved for long term reliability
- Telescopic steel way cover on X/Y/Z Axes
- Heavy-duty overhead square control arm
- Portable hand wheel
- Coolant system with pump
- Automatic lubrication with alarm
- Heavy-duty chip tray and rear splash guard
- Table guarding with interlock doors
- Long arm halogen work light
- Tools, toolbox and parts
- Air power drawbar

Full range, Quality Assurance

All machines are 100% Laser Calibration and Ballbar testing Before Shipping...



Every machine is measured & calibrated by a Renishaw Laser and Ball-Bar analysis and undergoes a rigorous 50 hours of non-stop running before shipment. A certificate of accuracy is also included for each machine.



BM-T Series Quill Head, CT 40 Taper w/6" quill travel,



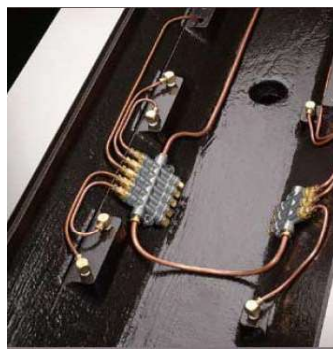
BM-400H Rigid Cartridge Spindle, BT40/8,000 rpm



Telescopic steel way Cover on X-Y-Z



Strong and rigidity column



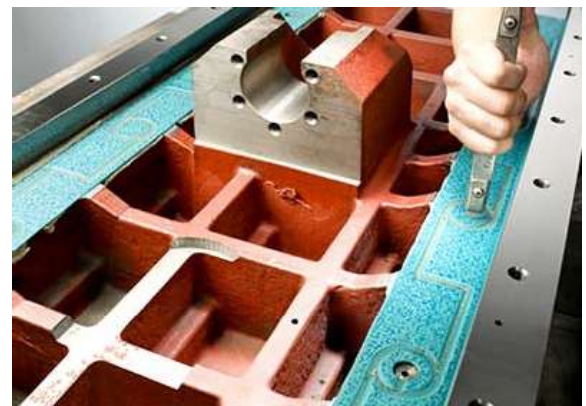
Automatic Lubrication on X-Y-Z



double nuts ballscrews X-Y-Z



Rugged heavy duty Meehanite Base & saddle



Hand-scraped to ensure accurate geometric alignment and provide maximum rigidity



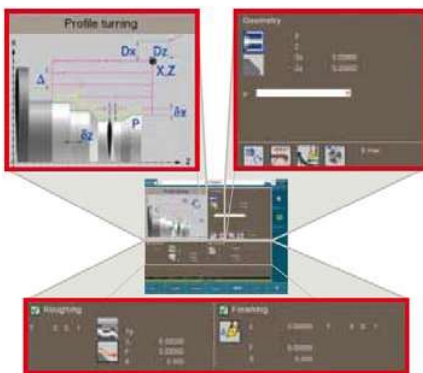
Fagor 8058elite / 8060elite conversational CNC Control



The new 8058/8060 controls is PC based and much more up to date, with full color conversational and graphical input. Without the need for advanced programming knowledge.

- 10.4" High Resolution LCD color monitor
- Use as a D.R.O. in Manual Mode
- Top-rated conversational programming workflow with customizable navigation, easy to program.
- Powerful ISO/G-Code programmable
- Built-in FAGOR CAD/CAM system
- Free PC simulator for offline programming, and .DXF to G-Code conversion.
- Remote CNC Support via TeamViewer™
- Windows 10 OS, industrial hardware
- Changeover time: ~2 ms (8058 M) / ~1 ms (8060 M)
- Look Ahead blocks: 150 (8058 M) / 300 (8060 M)
- USB ports, Ethernet Ports, & CFast Card.
- Automatic and Manual operating modes

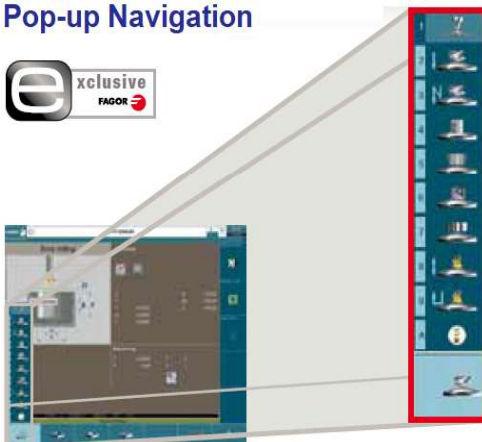
Interactive language IIP (Interactive Icon-based Pages)



The operator prefers Fagor CNCs offers IIP conversational programming cycles. No prior G code knowledge is required to operate the CNC in this mode. The operator just defines the geometry of the part to be made, the tool and the machining conditions and the CNC will do the rest. For machining single work pieces (prototype etc.) the CNC uses the same concept as operating a manual machine, without having to create the program or saving it. The part can be machined in various steps using predefined CNC cycles. This operating and programming concept eliminates the need to have specially trained machine operators.

Pop-up Navigation

Pop-up Navigation



Fagor CNC's offer you a pop-up type menu system for immediate access to all the programming and operation options.

The pop-up is displayed via soft-keys overlapping the new menus on the screen allowing you to select desired option with minimum effort and clear manner. This visually interactive method eliminates the complex and confusing sub-menu type system. Using a few machining basics, an operator who has never used a Fagor product will familiarize with it very easily.

Depending on your specific needs you can also customize the CNC navigation by eliminating certain work modes or cycles allowing you to choose screen layout or cycles you use most often. Hence simplifying the CNC even further.

Integrated documentation

Integrated in to the CNC are the operating and programming manuals in your own language. Pressing the HELP key, the CNC automatically displays the chapter related to the operation being carried out at the time. Once inside the manuals, you can consult any other information by navigating between various chapters. By integrating the manuals in to the CNC the user can easily access the relevant information without having to consult the paper manuals.

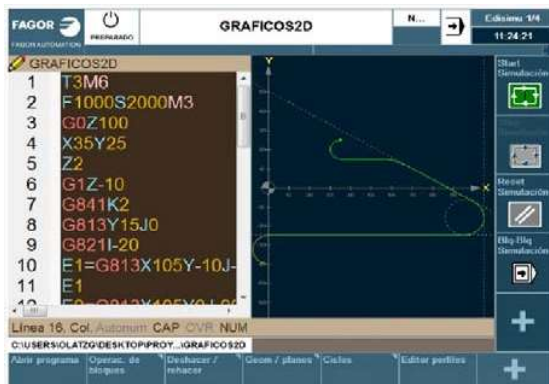


CNC simulator for PC

You can download a free copy of CNC simulator from Fagor's website to simulate any CNC program taking in to consideration machine configuration and actual speeds and feeds etc.

This software can also be used for:

- Training programmers and operators in training centers.
- Teaching programming in an educational environment.
- Editing/Simulating part program in design departments.
- Machining time estimate



Interactive graphics

As the operator edits his program, the CNC simultaneously shows how it is being edited.

The user can check the programmed movements and direction before executing the programs, even before simulating them.

Milling - Cycle examples, from simple to the most complex

You can choose from a number of predefined cycles, from SIMPLE to the most COMPLEX: Milling, Facing, Profile Milling, Boss, Drilling, boring.....and many more for turning.

1 Plane milling (Surface milling)

Cycle Helical milling Milling with parallel passes

2 Rectangular boss

Cycle Final part

3 Rectangular pocket with rounding along a line

Cycle Final part

4 Thread milling (or drilling cycle) on a rectangle

Cycle Final part

5 Milling of point-to-point profile

Cycle Final part

6 Milling of a free profile

Cycle Profile programmed in ProGTL3 or Fagor language Final part

7 2D profile pocket without inside islands

Cycle Plane profile without islands Final part

8 2D profile pocket with inside islands

Cycle Plane profile with two islands Final part

9 3D profile pocket without inside islands

Cycle Plane profile without islands Section profile Final part

★ FANUC 0i MF, SIEMENS SINUMERIK 828D Available

| Specifications | | BM-350T | BM-400T | BM-350H | BM-400H | BM-460T | BM-600T |
|----------------------------|---|--|-----------------|-----------------------------|----------------|--------------------------------|----------------|
| MACHINING ENVELOPE | | | | | | | |
| Axis Travel | X | 810mm | 1000mm | 810mm | 1000 mm | 1050 mm | 1500 mm |
| | Y | 460mm | 500mm | 460mm | 500 mm | 510 mm | 630 mm |
| | Z | 500mm | 560mm | 500mm | 560 mm | 510 mm | 610 mm |
| Spindle nose to table top | | 100~600 | 100~660 mm | 100~660 mm | | 100-610 | 100~710 |
| Spindle center to column | | 550 mm | 530 mm | 550 mm | 530 mm | 550 mm | 660 mm |
| Table | | | | | | | |
| Table size (mm) | | 305*1370 | 305*1520 | 254*1370 | 305*1520 | 400x1370 | 450x1800 |
| Table loading capacity | | 300 kg | 400 kg | 300 kg | 400 kg | 800 kg | 800 kg |
| T-slot configuration | | 16 mm * 3T | | 16 mm * 3T | | 16 mm * 5T | 16mm * 5T |
| Spindle | | | | | | | |
| Spindle Motor | | 5 HP | 5 HP | 5 HP | 7.5 HP | 7.5 HP | 7.5 HP |
| Spindle speed range (rpm) | | 60-4500 rpm | | 60-8000 rpm | | 60 – 4500 rpm | |
| Spindle Taper | | NT40 | NT40 | BT40/CT40 or DIN40 | | NT40 | |
| Quill diameter (mm) | | Ø100 mm | | Cartridge type | | Ø105mm | |
| Quill Travel | | 127mm (5") | | Rigid Head, No Quill | | 140 mm | |
| Head swivel (Right/ Left) | | ±90 degrees | | Fixed | | ±90 degrees | |
| CNC Control System | | FAGOR 8058elite or Siemens 802SD Pro / Siemens 828D (Option) | | | | | |
| Axes Transmission | | | | | | | |
| Axis Feed Motor (X-Y-Z) kW | | 1.5 / 1.5 / 1.5 kW | | | | 2.0 / 2.0 / 2.0 kW | |
| X Y Z rapid feed | | X-Y-Z axes: 8.0 / 8.0 / 8.0 m/min | | | | X-Y-Z axes:12 / 12 / :10 m/min | |
| X Y Z feed rate | | 4 m/min | | | | 5 m/min | |
| Accuracy | | | | | | | |
| Positioning | | ±0.005 (±0.0002") | | | | | |
| Positioning repeatability | | ±0.003 mm (±0.0001") | | | | | |
| Coolant pump motor | | 1/8 HP | | 1/8 HP | | 1/8 HP | 1/8 HP |
| Coolant Capacity | | 10 Gallons | | 10 Gallons | | 12 Gallons | 12 Gallons |
| Lubrication pump | | 150 W | | | | | |
| Power required | | 12 KVA | | | | 18 KVA | 18 KVA |
| Air required | | 6 kg/cm (85 psi) | | | | | |
| Packing size (W x D x H) | | 65" * 78" * 82" | | 65" * 78" * 82" | | 75"*89" *95" | 104"*89"*95" |
| Operation dimensions | | 110"*75" * 93" | | 115" * 78" * 96: | | 165"*84"*105 | 175"*84"*88" |
| Machine weight (Approx.)NW | | 1,500 kg | 1,650 kg | 1,500 kg | 16,50 kg | 3,100 kg | 4,000 kg |
| Machine weight (Approx.)GW | | 1,700 kg | 1,850 kg | 1,700 kg | 1,850 kg | 3,400 kg | 4,300 kg |

All data subject to change without notice

Standard Accessories:

- 100% laser tested for positioning accuracy & repeatability
- Box ways design on Y & Z axis to provide maximum rigidity & stability
- Standard way covers on all three axes
- Coolant system
- Central lubrication system

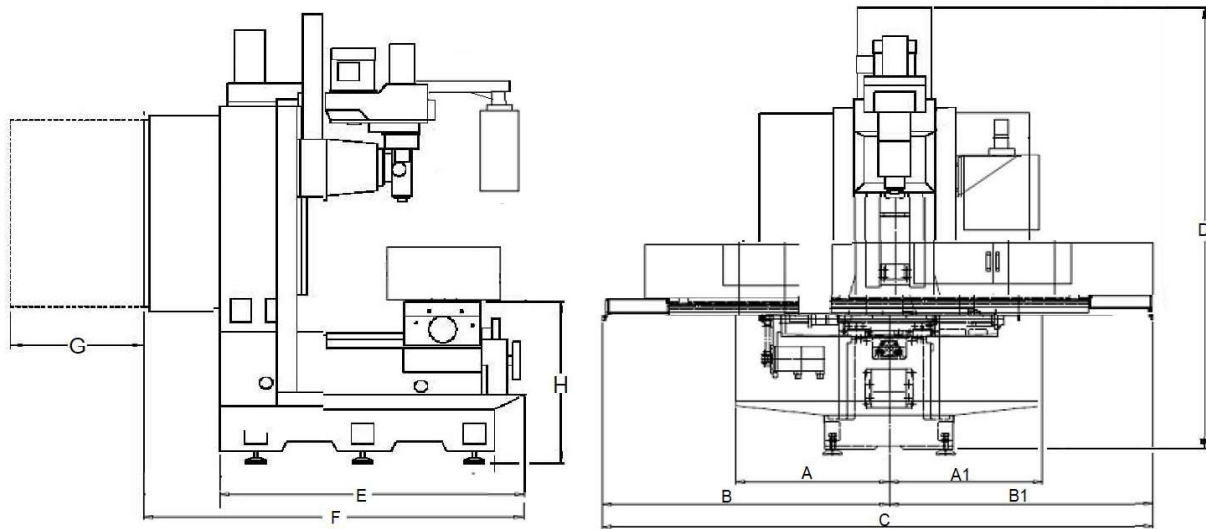
- Built-in Quartz work light
- Chip Tray w/ Splash Guard and Table mount guard
- Tool box with tools
- Leveling pads & screws
- Operation manual with parts manual

Optional Equipment

- Full Enclosure.
- Semi-enclosure guard.
- Chip Auger (Screw type chip conveyor).
- Chain type chip conveyor with bucket

- Armless type ATC(12T/16T for BM-350H,400H)
- 52pcs Clamping Kit
- 6" Angle Vise w/ Swivel Base

Machine Dimension:



Unit : mm

| Model | A | A1 | B | B1 | C | D | E | F | G | H |
|---------|-----|-----|------|------|------|------|------|------|------|-----|
| BM-350T | 690 | 690 | 940 | 940 | 1883 | 2300 | 1255 | 1960 | 750 | 850 |
| BM-400T | 762 | 762 | 1260 | 1260 | 2524 | 2300 | 1255 | 1960 | 750 | 850 |
| BM-350H | 690 | 690 | 940 | 940 | 1883 | 2300 | 1255 | 1960 | 750 | 850 |
| BM-400H | 762 | 762 | 1260 | 1260 | 2524 | 2300 | 1255 | 1960 | 750 | 850 |
| BM-460T | 705 | 705 | 1545 | 1545 | 3090 | 2500 | 1720 | 2170 | 1050 | 860 |
| BM-600T | 810 | 810 | 2155 | 2145 | 4300 | 2680 | 2080 | 2540 | 1050 | 850 |